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EXAMINER

TZENG, FRED

ART UNIT

PAPER NUMBER

2651

DATE MAILED: 12/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/611,758

**Applicant(s)**

ITO, HIROKO

**Examiner**

Fred Tzeng

**Art Unit**

2651

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 11/28/03.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

1. Claims 1-4 are presented for examination.

#### ***Drawings***

2. Figure 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.121(d)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

#### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Judge et al (USPN 6,141,174), hereafter as Judge.

RE claims 1 and 4, Judge discloses a multi-channel head position controlling apparatus (see figure 2, the controller 26 and head positioner 24 for the multi-channel head 22) comprising: a multi-channel head including a plurality of unit recording heads arranged integrally with a predetermined spacing so as to have head gaps of the unit recording heads aligned with one another (see column 3 lines 52-54 and figure 3a; the head gaps 90a-90d are aligned with one another), the multi-channel head forming a plurality of multi-linear recording tracks on a tape-like recording medium (see column 3 lines 54-56); a supporting section for supporting the multi-channel head so as to contact with the tape-like recording medium upon forming an azimuth angle relative to the running direction of the tape-like recording medium in which an alignment direction of the unit recording heads crosses the tape-like recording medium at a slant angle, and making the azimuth angle variable (see column 5 line 62 – column 6 line 11 and figures 2 & 8; the head positioner assembly 24 is the supporting section); a detecting section for detecting a deviation between a reproducing level of a control record which is previously recorded on the multi-linear recording tracks and a reference level (see column 5 lines 31-44, the servo tracks S1 and S2 are used for detecting a deviation); and a displacement control section for controlling displacement of the supporting section and varying the azimuth angle so as to minimize the deviation, according to the deviation (see column 5 lines 46-61, the PES produced by servo tracks S1 and S2 is fed back to head positioning system for adjusting the azimuth angle  $\theta$  until PES is zero).

RE claim 2, Judge discloses that the detecting section detects deviation between a reproducing level of the multi-linear recording tracks at both ends of the tape-like

recording medium and a reference level (see column 4 lines 51 – column 5 line 1, the deviations at end w1 and end w2 are detected).

RE claim 3, Judge discloses that the displacement control section controls the supporting section so as to make the supporting section tilt centered on unit recording heads located around a central portion amongst the unit recording heads forming the multi-channel head (see column 5 line 62 – column 6 line 11 and column 6 lines 29-44, the controller 26 is the displacement control section controls the supplying section 86 laterally and azimuthally to compensate for track pitch changes).

### ***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. LaBeau et al (USPN 4,342,057) disclose an apparatus for calculating the skew distortion introduced in each channel of a multi-channel longitudinal recorder when recorded information signals in at least two channels contain a detectable characteristics. Albrecht et al (USPN 6,331,920) disclose a backward compatible head and head positioning assembly for a linear digital tape drive. Ohmori et al (USPN 5,666,249) disclose a multi-channel head includes a plurality of magnetic heads having different azimuth angles of the magnetic gaps. Nayak et al (USPN 5,371,636) disclose a mechanism for a closed loop head positioner for streaming tape drives. Shinno et al (USPN 4,997,510) disclose a tape affixing head movable in X-axis, Y-axis, Z-axis, A-axis and C-axis directions. Nakamichi (USPN 4,519,006) disclose that an azimuth position of a gap of a reproducing head is correctly adjusted relative to the

position of a signal recorded on a magnetic tape. Yamada (USPN 4,460,934) disclose a magnetic head for providing azimuth information therefrom relative to a signal recorded on a magnetic tape. Suzuki (USPN 4,305,102) discloses a multi-channel head device and its manufacturing method.

6. Any response to this office action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 308-9051, (formal communications, please mark

"EXPEDITED PROCEDURE")

Or:

(703) 308-6606 (for informal or draft communications, please label

"PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2021

Crystal Drive, Arlington. V.A., Sixth Floor (receptionist).

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred Tzeng whose telephone number is 703-305-4841.

The examiner can normally be reached on weekdays from 9:30 am to 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on 703-305-4040. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-746-5710 for After Final communications.

Art Unit: 2651

8. Informal regarding the status of an application may be obtained from the Patent Application Information Retrieval (**PAIR**) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Fred F. Tzeng

December 06, 2004

FTK



SINH TRAN  
PRIMARY EXAMINER